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| 10/696,895 | 10/30/2003 | Joseph G. Laura | IDF 2505 (4000-14700) | 9244 |
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| | | | 2192 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/696,895 | Applicant(s) LAURA, JOSEPH G. | |
| | Examiner Eric B. Kiss | Art Unit 2192 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>20040209, 20050520, 20060630</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-39 have been examined.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-39 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Descriptive material can be characterized as either “functional descriptive material” or “nonfunctional descriptive material.” In this context, “functional descriptive material” consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of “data structure” is “a physical or logical relationship among data elements, designed to support specific data manipulation functions.” The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) “Nonfunctional descriptive material” includes but is not limited to music, literary works and a compilation or mere arrangement of data. Both types of “descriptive material” are nonstatutory when claimed as descriptive material *per se*. *In re Warmerdam*, 33 F.3d 1354, 1361, 31 USPQ2d 1754, 1760 (claim to a data structure *per se* held nonstatutory).

Data structures not claimed as embodied in computer-readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. *See, e.g., In re Warmerdam*, 33 F.3d 1354, 1361, 31 USPQ2d 1754, 1760 (claim to a data structure *per se* held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects

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of the invention which permit the data structure's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory.

Similarly, computer programs claimed as computer listings *per se*, *i.e.*, the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. *See In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035.

Claims 23-34 recite a COBOL compiler comprising a series of elements that can be reasonably interpreted as software, *per se*. The claim does not define any structural and functional interrelationships between the software elements and a computer that would permit the described functionality to be realized when the software is employed as a computer component. Accordingly, claims 23-34 appear to merely set forth functional descriptive material *per se*, which is nonstatutory.

A claim that requires one or more acts to be performed defines a process. However, not all processes are statutory under 35 U.S.C. § 101. To be statutory, a claimed process must either: (A) result in a physical transformation for which a practical application is either disclosed in the specification or would have been known to a skilled artisan, or (B) be limited to a practical application which produces a useful, tangible, and concrete result. *See Diamond v. Diehr*, 450 U.S. 175, 183-84, 209 USPQ 1, 9 (1981) (quoting *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876)) (“A [statutory] process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing The process requires that certain things should be done with certain substances, and in a certain order; but the tools to be used in doing this may be of secondary consequence.”). *See also In re Alappat*, 33 F.3d 1526, 1543, 31 USPQ2d 1545, 1556-57 (quoting *Diehr*, 450 U.S. at 192, [209 USPQ at 10]).

In *State Street*, the Federal Circuit examined some of its prior section 101 cases, observing that the claimed inventions in those cases were each for a “practical application of an abstract idea” because the elements of the invention operated to produce a “useful, concrete and tangible result.” *State St. Bank & Trust v. Signature Fin. Group*, 149 F.3d 1368, 1373-74, 47 USPQ2d 1596, 1601-02 (Fed Cir. 1998). For example, the court in *State Street* noted that the claimed invention in *Alappat* “constituted a practical application of an abstract idea (a mathematical algorithm, formula, or calculation), because it produced ‘a useful, concrete and tangible result’—the smooth waveform.” *Id.* Similarly, the claimed invention in *Arrhythmia* “constituted a practical application of an abstract idea (a mathematical algorithm, formula, or calculation), because it corresponded to a useful, concrete and tangible thing—the condition of a

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patient's heart." *Id.* (citing *Arrhythmia Research Tech. V. Corazonix Corp.*, 958 F.2d 1053, 22 USPQ2d 1033 (Fed. Cir. 1992)).

In determining whether the claim is for a "practical application," the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the final result is "useful, tangible and concrete." The Federal Circuit further ruled that it is of little relevance whether a claim is directed to a machine or process for the purpose of a § 101 analysis. *AT&T Corp. v. Excel Commc'ns*, 172 F.3d 1352, 1358, 50 USPQ2d 1447, 1451 (Fed. Cir. 1999).

Claims 1-39 are directed to methods (claims 1-17 and 35-39), systems (claims 18-22), and "compilers" (claims 23-34) for "providing" a technical/extension layer enabling an asynchronous/distributed processing module and "employing" such a module to perform asynchronous/distributed processing. This claimed subject matter lacks a practical application of a judicial exception (law of nature, abstract idea, naturally occurring article/ phenomenon) since it fails to produce a useful, concrete and tangible result. Specifically, the claimed subject matter does not produce a tangible result because the claimed subject matter fails to produce a result that is limited to having real world value rather than a result that may be interpreted to be abstract in nature as, for example, a thought, a computation, or manipulated data. More specifically, the claimed subject matter describes at best the performing of a process that is not tied to any particular tangible output capable of being, for example, stored, displayed, or conveyed in any manner causing any useful functional or structural change in a computer system so as to achieve a practical application. This produced result remains in the abstract and, thus, fails to achieve the required status of having real world value.

4. To expedite a complete examination of the instant application, the claims rejected under 35 U.S.C. §101 (non-statutory) above are further rejected as set forth below in anticipation of Applicant amending these claims to place them within the four statutory categories of invention.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3, 5-8, 10-37, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over “PERCobol Evaluation and Review Guide: Getting Started” (hereinafter Getting_Started) in view of “PERCobol Enterprise Edition V2.4: Programmer's Guide” (hereinafter Prog_Guide).

As per claim 1, Getting_Started discloses providing a technical layer for use by a COBOL program, the technical layer enabling a distributed processing module (see, for example, pages 7-8); providing a COBOL program (see, for example, pages 7-8); and the COBOL program and the technical layer operating in the same runtime environment (see, for example, pages 7-8).

Prog_Guide teaches employing, by the COBOL program, the distributed processing module to enable the COBOL program to perform distributed processing (see, for example, pages 90-95).

The motivation to combine the teachings of Getting_Started and Prog_Guide is readily apparent as these documents are describing the same family of products from the same source (associated with the trademark PERCOBOL).

As per claim 2, see, for example, pages 7-8 of Getting_Started and pages 90-95 of Prog_Guide. For reasons stated above, such a claim also would have been obvious.

As per claim 3, see, for example, pages 7-8 of Getting_Started and pages 90-95 of Prog_Guide. For reasons stated above, such a claim also would have been obvious.

As per claim 5, see, for example, page vi of Prog_Guide (OS/390 is a mainframe operating system). For reasons stated above, such a claim also would have been obvious.

As per claim 6, see, for example, Getting_Started, pages 7-8. For reasons stated above, such a claim also would have been obvious.

As per claim 7, see, for example, Getting_Started, pages 7-8. For reasons stated above, such a claim also would have been obvious.

As per claim 8, see, for example, pp. 90-95 of Prog_Guide. For reasons stated above, such a claim also would have been obvious.

As per claims 10-12, see, for example, pp. 90-95 and 167-181 of Prog_Guide. For reasons stated above, such a claim also would have been obvious.

As per claim 13, see, for example, Getting_Started, pages 7-8. For reasons stated above, such a claim also would have been obvious.

As per claim 14, see, for example, pp. 90-95 of Prog_Guide. For reasons stated above, such a claim also would have been obvious.

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As per claims 15-17, see, for example, pages 7-8 of Getting_Started and pages 90-95 of Prog_Guide. For reasons stated above, such claims also would have been obvious.

As per claim 18, Getting_Started discloses a computer system (inherent); a COBOL extension layer enabling at least one module operable for a distributed and asynchronous processing task (see, for example, pages 7-8).

Prog_Guide teaches employing, by a COBOL program, the distributed processing module to enable the COBOL program to perform distributed processing (see, for example, pages 90-95).

The motivation to combine the teachings of Getting_Started and Prog_Guide is readily apparent as these documents are describing the same family of products from the same source (associated with the trademark PERCOBOL).

As per claim 19, see, for example, Getting_Started, pages 7-8. For reasons stated above, such a claim also would have been obvious.

As per claim 20, see, for example, Getting_Started, pages 7-8. For reasons stated above, such a claim also would have been obvious.

As per claim 21, see, for example, page vi of Prog_Guide (OS/390 is a mainframe operating system). For reasons stated above, such a claim also would have been obvious.

As per claim 22, see, for example, Prog_Guide, pages 90-95. For reasons stated above, such a claim also would have been obvious.

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As per claim 23, Getting_Started discloses an engine to compile a COBOL program and a processing module (see, for example, pages 7-8).

Prog_Guide teaches employing, by the COBOL program, the distributed and asynchronous processing module to enable the COBOL program to perform distributed and asynchronous processing (see, for example, pages 90-95).

The motivation to combine the teachings of Getting_Started and Prog_Guide is readily apparent as these documents are describing the same family of products from the same source (associated with the trademark PERCOBOL).

As per claim 24, see, for example, Prog_Guide, pages 167-181. For reasons stated above, such a claim also would have been obvious.

As per claim 25, see, for example, Progr_Guide, pp. 177-181. For reasons stated above, such a claim also would have been obvious.

As per claim 26, see, for example, Progr_Guide, pp. 90-95. For reasons stated above, such a claim also would have been obvious.

As per claim 27, see, for example, Progr_Guide, pp. 90-95. For reasons stated above, such a claim also would have been obvious.

As per claims 28-30, see for example, Prog_Guide, pp. 177-181. For reasons stated above, such claims also would have been obvious.

As per claims 31 and 32, see, for example, p. 90 of Prog_Guide. For reasons stated above, such claims also would have been obvious.

As per claim 33, see, for example, p. 91 of Prog_Guide. For reasons stated above, such a claim also would have been obvious.

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As per claim 34, see, for example, p. 93 of Prog_Guide. For reasons stated above, such a claim also would have been obvious.

As per claim 35, Getting_Started discloses providing a technical layer for use by a COBOL program (see, for example, pages 7-8); providing a COBOL program (see, for example, pages 7-8).

Prog_Guide teaches employing, by the COBOL program, the distributed and asynchronous processing module to enable the COBOL program to perform distributed and asynchronous processing (see, for example, pages 90-95).

The motivation to combine the teachings of Getting_Started and Prog_Guide is readily apparent as these documents are describing the same family of products from the same source (associated with the trademark PERCOBOL).

As per claim 36, see, for example, Getting_Started, pages 7-8. For reasons stated above, such a claim also would have been obvious.

As per claim 37, see, for example, Getting_Started, pages 7-8. For reasons stated above, such a claim also would have been obvious.

As per claim 39, see, for example, page vi of Prog_Guide (OS/390 is a mainframe operating system). For reasons stated above, such a claim also would have been obvious.

7. Claims 4 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Getting_Started and Prog_Guide, as applied above to claims 1 and 35, and further in view of

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“Pro*COBOL Precompiler Programmer’s Guide,” March 2002, Oracle Corp., Part No. A96109-01, pp. i-xxi, “2-1” through “2-32”, and “12-1” through “12-22”, (75 pages) (hereinafter Pro*C).

As per claims 4 and 38, although Getting_Started and Prog_Guide fail to expressly disclose the use of a pre-compiler for implementing processing modules, Pro*C teaches that it is known to use such a pre-compiler to allow for the addition of new processing modules into a host language (see, for example, pages “2-2” through “2-6” of Pro*C). Therefore, it would have been obvious to one of ordinary skill in the computer art at the time the invention was made to incorporate the use of a pre-compiler for implementing processing modules as taught by Pro*C. One would be motivated to do so to gain the advantages of being able to write very flexible applications (see Pro*C at p. “2-2”).

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Getting_Started and Prog_Guide, as applied above to claim 1, and further in view of U.S. Patent No. 5,146,593 (Brandle et al.).

As per claim 9, although Getting_Started and Prog_Guide fail to expressly disclose the use of assembly language to write the technical layer, Brandle teaches that it is known to use multiple available languages, including, for example, COBOL and assembly language together to create callable modules (col. 4, lines 17-40). Therefore, it would have been obvious to one of ordinary skill in the computer art at the time the invention was made to use assembly language as a known means to efficiently implement such modules. One would be motivated to do so to gain the advantage of flexibly allowing modules to be written in multiple languages.

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Conclusion

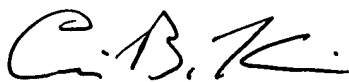
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Eric B. Kiss whose telephone number is (571) 272-3699. The Examiner can normally be reached on Tue. - Fri., 7:00 am - 4:30 pm. The Examiner can also be reached on alternate Mondays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Tuan Dam, can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature should be directed to the TC 2100 Group receptionist: 571-272-2100.



Eric B. Kiss
February 16, 2007